



Volunteer Lake Assessment Program Individual Lake Reports

HUNKINS POND, SANBORNTON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	250	Max. Depth (m):	7.9	Flushing Rate (yr ⁻¹):	1.9	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	15	Mean Depth (m):	4.2	P Retention Coef:	0.58	1989	EUTROPHIC	
Shore Length (m):	1,000	Volume (m ³):	253,500	Elevation (ft):	785	2006	EUTROPHIC	

TROPHIC CLASSIFICATION

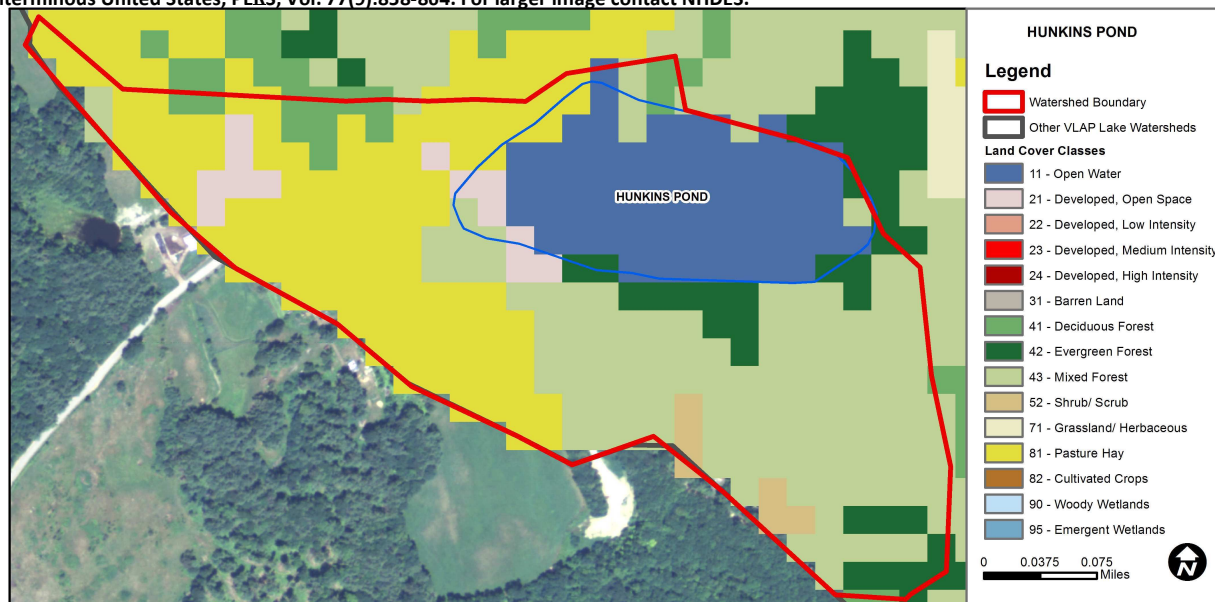
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Bad	>/=5 samples and median is >2x threshold.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Bad	>/=5 samples and median is >2x threshold.
Primary Contact Recreation	E. coli	Bad	>/=1 exceedance(s) of geometric mean criterion and/or >/=2 exceedances of single sample criterion, with 1 or more >2X criteria.
	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).
	Chlorophyll-a	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	19.4	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	4.06	Deciduous Forest	3.43	Pasture Hay	31.21
Developed-Low Intensity	0	Evergreen Forest	6.87	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	35.58	Woody Wetlands	0
Developed-High Intensity	0	Shrub-Scrub	1.87	Emergent Wetlands	0



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

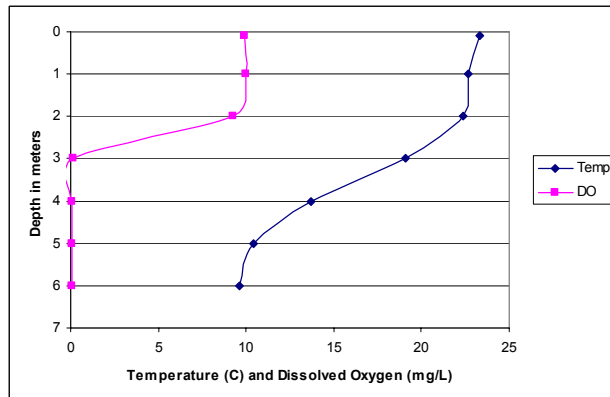
HUNKINS POND, SANBORNTON, NH

2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

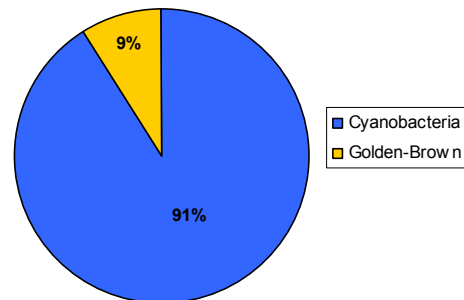
- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were extremely elevated due to the persistent cyanobacteria bloom.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity levels were elevated likely due to nearby agricultural practices.
- 🔥 **TOTAL PHOSPHORUS:** Phosphorus levels were elevated, particularly in the hypolimnion (lower water layer) indicating internal loading as a source of phosphorus. Epilimnetic (upper water layer) phosphorus levels decreased significantly in 2011 and 2012 which is a positive sign.
- 🔥 **TRANSPARENCY:** Transparency levels were very low due to the enhanced cyanobacteria growth.
- 🔥 **TURBIDITY:** Turbidity levels were elevated due to enhanced cyanobacteria growth.
- 🔥 **pH:** Epilimnetic and metalimnetic (middle water layer) pH levels were high due to photosynthetic by-products released by the cyanobacteria.
- 🔥 **RECOMMENDED ACTIONS:** Continue experimenting with ways to reduce external (agricultural) and internal phosphorus loading to reduce persistent cyanobacteria blooms and restore the pond to healthy conditions.

Dissolved Oxygen & Temperature Profile



Station Name	Table 1. 2012 Average Water Quality Data for HUNKINS POND						
	Alk.	Chlor-a	Cond.	Total P	Trans.	Turb.	pH
	mg/l	ug/l	uS/cm	ug/l	m	ntu	
					NVS		
Epilimnion	14.2	59.6	150.0	29	0.73	17.2	9.11
Metalimnion			149.0	37		17.1	8.90
Hypolimnion			181.5	330		22.9	6.48

Hunkins Pond Phytoplankton Population



NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Additional data necessary to establish trend.
Transparency	N/A	Additional data necessary to establish trend.
Phosphorus (epilimnion)	N/A	Additional data necessary to establish trend.

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